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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,181	04/11/2005	Flemming Munk	742114-14	4864

25570 7590 05/07/2007  
ROBERTS, MLOTKOWSKI & HOBBS  
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MCLEAN, VA 22102-8064

EXAMINER
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MORALES, JON ERIC C

ART UNIT	PAPER NUMBER
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3766

MAIL DATE	DELIVERY MODE
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05/07/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/531,181	<b>Applicant(s)</b> MUNK, FLEMMING	
	<b>Examiner</b> Jon-Eric C. Morales	<b>Art Unit</b> 3766	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 8 is/are rejected.
- 7) ☒ Claim(s) 2-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 4/11/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Oath/Declaration***

1. Applicant is now required to submit a substitute declaration or oath to correct the deficiencies set forth the declaration is stated to be directed to a PCT application that this application claims priority from. The declaration or oath must be directed to the current application number not the PCT. The substitute oath or declaration must be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability" (PTO-37). Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136. Failure to timely file the substitute declaration (or oath) will result in **ABANDONMENT** of the application. The transmittal letter accompanying the declaration (or oath) should indicate the date of the "Notice of Allowance" (PTOL-85) and the application number in the upper right hand corner.

### ***Priority***

Receipt is acknowledged of a certified copy of the PCT/DK03/00680 application referred to in the oath or declaration or in an application data sheet. If this copy is being filed to obtain the benefits of the foreign filing date under 35 U.S.C. 119(a)-(d), applicant should also file a claim for such priority as required by 35 U.S.C. 119(b). If the application being examined is an original application filed under 35 U.S.C. 111(a) (other than a design application) on or after November 29, 2000, the claim for priority must be presented during the pendency of the application, and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior foreign application. See 37 CFR 1.55(a)(1)(i). If the application being examined

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has entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the claim for priority must be made during the pendency of the application and within the time limit set forth in the PCT and Regulations of the PCT. See 37 CFR 1.55(a)(1)(ii). Any claim for priority under 35 U.S.C. 119(a)-(d) or (f) or 365(a) or (b) not presented within the time period set forth in 37 CFR 1.55(a)(1) is considered to have been waived. If a claim for foreign priority is presented after the time period set forth in 37 CFR 1.55(a)(1), the claim may be accepted if the claim properly identifies the prior foreign application and is accompanied by a grantable petition to accept an unintentionally delayed claim for priority. See 37 CFR 1.55(c).

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Bennett, Jr. (US Patent No. 5012815) (Hereinafter Bennett).

4. Regarding claim 1, Bennett discloses the use of a microphone (transducer) to obtain heart sound (phonocardiographic) signal. The signal goes through spectral analysis and uses sine functions model to chart the signal in relation to a time interval for the discrete Fourier transform. The time and frequency axis scaling control the

amplitudes and phases of the sinusoidal heart sound signal (column 1 lines 27-35, column 4 lines 3-12 and 16-31, column 14 lines 4-15).

5. With respect to claim 8, the heart sound signal passes through a windowing time function as well as a Fourier transform spectral analysis (column 6 lines 21-34 and 45-51). Peaks are found, classified and compared (column 12 lines 35-38, 50-54, and 65-68). The time and frequency axis scaling control the amplitudes and phases of the sinusoidal signal (column 1 lines 27-35, column 4 lines 3-12 and 16-31, column 14 lines 4-15). The heart sound signal is enhanced by synchronizing and combing signals which removes noise creating a clear signal with respect to time (column 9 lines 62-68 column 10 lines 1-10, column 11 lines 31-39).

### ***Claim Objections***

6. Claims 2-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

1. The following patent and patent application publications are cited and further show the state of the art with respect to extracting information from a heart sound signal in general:

US 20040138572 A1	US-PGPUB	Thiagarajan, Arvind
US 20020173826 A1	US-PGPUB	Lincoln, William C. et al.
US 5685317 A	USPAT	Sjostrom; Svend-Olof
US 5036857 A	USPAT	Semmlow; John L. et al.

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US 5086776 A	USPAT	Fowler, Jr.; Franklin S. et al.
US 6665564 B2	USPAT	Lincoln; William C. et al.
US 4649930 A	USPAT	Groch; Mark W. et al.
US 3318303 A	USOCR	KONRAD HAMMACHER
US 4378022 A	USPAT	Suobank; David W. et al.
US 4446873 A	USPAT	Groch; Mark W. et al.
US 3581735 A	USPAT	Gentner; Otto J. et al.
US 4967760 A	USPAT	Bennett, Jr.; William R. et al.
US 5825895 A	USPAT	Grasfield; James A. et al.
US 6002777 A	USPAT	Grasfield; James A. et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon-Eric C. Morales whose telephone number is 571-272-3107. The examiner can normally be reached on Monday through Friday from 8am - 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Layno can be reached on 571-272-4949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

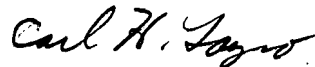
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jon-Eric Morales  
Patent Examiner  
Art Unit 3766

JEM

Carl Layno  
Acting Supervisory Patent  
Examiner  
Art Unit 3766

  
CARL LAYNO  
PRIMARY EXAMINER